

of the former species when he described it in 1940.³ Additional specimens of *flavocaudatus* from Mississippi which Dr. Walker checked for me are as follows: FORREST Co.—Hattiesburg: 2 ♂♂, Bill Thomson, 4/18/41, 4/11/42 (MJW). JACKSON Co.—Cedar Creek: 1 ♀, ALD. GEORGE Co.—Lucedale: 2 ♀♀, ALD, 4/18/29, 4/5/30. —MERRILL: 1 ♂, ALD, 4/7/29. PERRY Co.—New Augusta (Leaf River): 1 ♂, ALD, 4/30/31. WAYNE Co.—Clara: 1 ♂, ALD, 3/24/32.

A New Cavernicolous *Nampabius* with a Key to its Northeastern American Congeners (Chilopoda: Lithobiidae)

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The present species is of interest because it was collected one-half mile within a cave at Lowmoor, Virginia. Although it cannot be said with absolute certainty that *tubator* is an established cavernicolous centipede, its status as one is strongly suggested by its rather pale color, by its ocelli which, though relatively numerous, are individually smaller than those of related forms, and by the exceptionally large organ of Tömösvary.

Nampabius turbator n. sp.

The new species bears a marked resemblance to the Ithacan *N. fungiferopes* (Chamberlin) in that both evidence a striking poverty of pedal spurs,¹ and both lack even the tiny thirteenth

³ Ent. News 51: 194–196, plate V, 1940.

¹ In order to establish some degree of uniformity in the presently confused terminology as it pertains to spines, spurs, and setae, I would suggest the adoption of the widely followed concepts of the insect morphologists as outlined in "An Introduction to Entomology" by J. H. Comstock, 9th ed., p. 32, 1940 and in "A Glossary of Entomology" by J. R. de la Torre-Bueno, 1937. Thus, a spur is a *movable multicellular* outgrowth connected to the exoskeleton by a joint. A spine is an *immovable multicellular* outgrowth not connected to the exoskeleton by

tergital productions characteristic of many of their congeners. The two forms are distinct, however, in that *turbator* possesses always two and sometimes three spur series not seen in *fungiferopes*, viz. *dpP*, *daF*, and *vmF*.² In addition, *turbator* is distinctly larger than the typically Liliputian *fungiferopes*.

The system of plectrotaxy³ employed here was devised by Ribaut and presented by him in 1921⁴ in a short but, unfortunately, ignored paper. Because the Ribaut system emphasizes a qualitative investigation of plectrotaxy, it lends itself more readily to a study of variation in the dispersions of serially homologous spurs than does the classical quantitative method of L. Koch and Meinert, which is still used today almost universally.

Type.—♂, Lowmoor, Alleghany Co., VIRGINIA. April 1950. (Richard L. Hoffman; one-half mile within a cave); [in author's collection, C-1398-619].

Total length: 7.5 mm. *Color*: dorsum generally rather pale yellowish-brown, the head, first tergite and posterior extremities slightly darker brown. *Antennae*: 3.5 mm. long; with twenty articles; relatively densely clothed with stiff straight setae; the third to tenth articles weakly areolate, not deeply strikingly sculptured as in *virginiensis*. *Cephalic plate*: 0.95 mm. long, 0.90 mm. wide; lateral interruptions minute; ocelli small, in number 1-3,2,1; organ of Tömösvary relatively larger than in related species, larger than any ocellus; sparsely clothed with long stiff setae, the longest of which is about 0.10 mm.

a joint. A seta is a *unicellular, movable* outgrowth connected to the exoskeleton by a joint. A spur would be exemplified by the pedal spurs discussed in this paper; the sharp thorn-like outgrowths of the ultimate legs of *Scolopendra* would be termed spines, and the antennal pilosity of most forms would be representative of setae.

² *vmF* is lacking in all of my specimens except one; then it is represented by a single spur on the thirteenth pair of legs.

³ The term *spinulation*, previously used by some, is inappropriate here in as much as it refers to spines. Such a term as *spurulation* is etymologically objectionable, therefore I propose the term *plectrotaxy* (πληκτρών = calcar = spur) to describe the arrangement and nomenclature of the serially homologous pedal spurs of Lithobiids.

⁴ RIBAUT, Soc. D'Hist. Nat. Toulouse XLIX, pp. 312-319, 1921.

Prehensors: prosternal teeth 2-2, their apices steeply reëntrant, the medial diastema widely U-shaped. *Tergites*: sparsely clothed with long and short straight setae, these longest on tergal periphery and especially on tergal posterior corners; the thirteenth tergal corners straight, not produced; the fourteenth tergal posterior margin slightly excised, not bowed posteriorly in a rounded arch as in *michiganensis*. *Legs*: tarsi one through eleven unipartite without a trace of a partial ventral suture or other divisional indication, the twelfth and thirteenth tarsi each with a very weak partial ventral suture, the penultimate and ultimate tarsi completely bipartite, each with a dorsal condyle; legs one through thirteen with three apical claws, legs fourteen and fifteen apparently retaining only the inner (unguiform) pretarsal accessory claw in addition to the pretarsus; coxal pores circular or slightly elliptical, decreasing in size proximally, in number 2,2,2,2; no coxae laterally armed; the penultimate and ultimate femora, tibiae, and tarsi mesally pierced with numerous small pores. *Leg modifications*: the ultimate and penultimate slightly longer and more crassate than those preceding; ultimate without lobes or crests; penultimate tibia disto-dorsally with a small almost spherical (very slightly elliptical) setigerous lobe most resembling that of *virginiensis*, its pedicel short, insensibly merging into the body of the lobe. *Plectrotaxy*: only the following spur series are present, *dpP* (13-15),⁵ *daF* (3-10), *daT* (1-11), *vmt* (14-15), *vmP* (14-15), *vmF* (10-15), *vmT* (3-13).

Allotype.—♀, Lowmoor, Alleghany Co., VIRGINIA. April 1950. (Richard L. Hoffman; one-half mile within a cave); [in author's collection, C-1398-619].

Besides lacking the sexually dimorphic features characteristic of the male, the female allotype differs from the male type in the following particulars.

Length: 9.5 mm. *Gonopods*: basal spurs 2-2, broad, distally rather abruptly though bluntly pointed; claw tripartite, the ven-

⁵ The bracketed figures represent spur dispersions, indicating the anterior and posterior limits of the spur series. Thus, *dpP* (13-15) means that the indicated spur occurs on the thirteenth through fifteenth pairs of legs.

tral denticle minute, barely separated from the medial denticle, the dorsal denticle almost as long as and distinctly separated from the medial denticle. *Plectrotaxy*: only the following spur series are present, *dpP*(13-15), *daF*(2-9), *daT*(1-11), *vmt*(14-15), *vmP*(14-15), *vmF*(9-15), *vmT*(3-13).

KEY TO THE NORTHEASTERN ⁶ SPECIES OF *NAMPABIUS* ⁷

- 1a. *dmP*, *dpF*, and *dpT* lacking. Thirteenth tergite not produced2
- 1b. *dmP* and *dpF* present, *dpT* present or absent. Thirteenth tergite distinctly but shortly produced.....3
- 2a. *dpP* and *daF* lacking, *vmF* usually lacking.....
.....*fungiferopes* (Chamberlain).
- 2b. *dpP*, *daF* and *vmF* present.....*turbator* sp. n.
- 3a. *dpT* present. Prosternal diastema usually U-, less often V-shaped. Male fourteenth tergital posterior margin straight or slightly excised. Antennal articles three through about ten strikingly deeply areolate....*virginiensis* Chamberlin.
- 3b. *dpT* absent. Prosternal diastema usually V-, less often U-shaped. Male fourteenth tergital posterior margin bowed posteriorly in a broad rounded curve. Antennal articles three through ten weakly areolate, the sculpturing detected with difficulty.....*michiganensis* Chamberlin.

⁶ I.e., those states north of North Carolina and east of the Mississippi River.

⁷ *Nampabius lundii* (Meinert) (Myriap. Mus. Haunensis III, p. 111, 1886), is not included; it is considered here *species inquirenda*.